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**USPTO**

# Fax

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**CC:**

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Proposed amendments:

Cancel claims 36-38, 41, 42, 45, 47, 62, 66, 67, 69-72.

Add new claims 73-83.

(Claims 39, 46 and 73-83 pending.)

New claims 73- 83 correspond to canceled claims, 36-38, 42, 47, 62, 66, 67, 70, 71 and 72. Claims not represented in this group canceled due to 112 first potential rejections.

Claim 73: An isolated protein which induces differentiation in Friend erythroleukemia cell lines, said protein exhibiting the following properties:

- a. induction of hemoglobin formation in Friend erythroleukemia cell lines;
- b. a molecular weight in the range of about 10-60 kDa as determined by gel filtration on a cross-linked allyl dextran;
- c. where corresponding mRNA is expressed in primary cells of the thymus, fetal liver, adult spleen and bone marrow;

- d. is encoded by a cDNA comprising repeat sequences of SEQ ID NO:6 and 7;
- e. where the corresponding mRNA comprises mRNA species of differing length, said mRNA species
  - i. comprise identical 3' regions corresponding to the coding region of SEQ ID NO:2, and
  - ii. comprise non-identical 5' regions.

Claim 74: Protein according to claim 73, wherein said protein comprises at least one of the following properties:

- a. is encoded by a mRNA which shows an in vitro upregulation and/or accumulation in host spleen cells after a three day allogenic spleen cell reaction is carried out with transplanted non-irradiated, non-pretreated spleen cells of mouse strains CBA and C57B1/6;
- b. is encoded by the 3' part of the corresponding cDNA, said cDNA having AT rich regions; and
- c. is inducible by a serum factor present in fetal calf serum.

Claim 75: Protein according to claim 73, wherein one or more of SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9 and SEQ ID NO:10 hybridize under stringent conditions to the cDNA encoding said protein, said stringent conditions comprising hybridization at 65 ° C in an aqueous solution.

Claim 76: An isolated fusion protein comprising the protein of claim 73.

Claim 77: An isolated protein comprising the amino acid sequences of SEQ ID NO:3 or SEQ ID NO:5

Claim 78: Therapeutic composition comprising the isolated protein of claim 73, conventional carriers, and excipient in an amount effective to treat diseases characterized by impairment of differentiation-inducing activity in erythropoietic cells.

Claim 79: An isolated fusion protein comprising the protein of claim 39, and

- a. part of a prokaryotic protein or,
- b. part of a eukaryotic protein.

Claim 80: Protein according to claim 73 comprising an amino acid sequence which is encoded by a DNA sequence hybridizing under stringent conditions comprising hybridization at 65 ° C in an aqueous solution, or hybridization at 42 ° C in 50% formamide, and subsequent washing of the filter at 60 ° C in an aqueous solution

having a salt concentration of 15 mM NaCl and a concentration of SDS of 0.1%, to a DNA sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2 and SEQ ID NO:4.

Claim 81: Protein according to claim 73, wherein said protein comprises at least those amino acids which are encoded by nucleotides 74-154, or nucleotides 155-685 of the DNA encoding SEQ ID NO:2.

Claim 82: Protein according to claim 73, wherein one or more of SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9 and SEQ ID NO:10 hybridize under stringent conditions to the cDNA encoding said protein, said stringent conditions comprising hybridization at 42 ° C in 50% formamide, and subsequent washing of the filter at 60 ° C in an aqueous solution having a salt concentration of 15 mM NaCl and a concentration of SDS of 0.1%.

Claim 83: An isolated protein which induces differentiation in Friend erythroleukemia cell lines, said protein exhibiting the following properties:

- a. induction of hemoglobin formation in Friend erythroleukemia cell lines;
- b. a molecular weight in the range of about 10-60 kDa as determined by gel filtration on a cross-linked allyl dextran;
- c. where corresponding mRNA is expressed in primary cells of the thymus, fetal liver, adult spleen and bone marrow;
- d. is encoded by a cDNA comprising repeat sequences of SEQ ID NO:6 and 7 or sequences which hybridize with the repeat sequences of SEQ ID NO:6 and 7 under stringent conditions comprising hybridization at 42 ° C in 50% formamide, and subsequent washing of the filter at 60 ° C in an aqueous solution having a salt concentration of 15 mM NaCl and a concentration of SDS of 0.1%;
- e. corresponding mRNA characterized by mRNA species of differing length, said mRNA species,
  - i. comprise identical 3' regions corresponding to the coding region of SEQ ID NO:2 or sequences which hybridize to said coding region under stringent conditions comprising hybridization at 65 ° C in an aqueous solution, or hybridization at 42 ° C in 50% formamide, and subsequent washing of the filter at 60 ° C in an aqueous solution having a salt concentration of 15 mM NaCl and a concentration of SDS of 0.1%,
  - ii. comprise non-identical 5' regions.